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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,213	09/25/2001	Shoji Nakayama	213896US2	8484

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER
ZIMMERMAN, GLENN

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 01/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/926,213	NAKAYAMA ET AL.	
	Examiner	Art Unit	
	Glenn Zimmerman	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-36 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-36 is/are rejected.

7)☒ Claim(s) 17 and 26 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 25 September 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(e) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

Claim 17 and 26 are objected to because of the following informalities: In claim 17 line(s) 5, the examiner suggests changing "process and" to "processing of". In claim 26 line(s) 1, the examiner suggests changing "display," to "display, comprising:".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The term "better" in claims 17, 18, 25 and 36 is a relative term which renders the claims indefinite. The term "better" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in

the art would not be reasonably apprised of the scope of the invention. The pressure is rendered indefinite.

A 112 2nd paragraph rejection has been determined for claims 17, 18, 25 and 36, as written about above. However, a further evaluation of the claims will be done while interpreting "better" as "less".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-3, 5-10, 13, 15, 17, 18, 26 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Osamu et al. Japanese Patent Abstract Publication Number 08-022785.

Regarding claims 1, 2, 3, 13 and 26, Osamu et al. discloses a method of manufacturing a flat panel **(title)** display comprising:

Depositing a getter film **(getter barium thin film r f. 19)** on a faceplate **(panel ref. 10)** having a phosphor layer **(fluorescent substance ref. 12)** formed on a

substrate **(glass plate ref. 11)**; and disposing the faceplate thereon the getter film is deposited and a rear plate **(tooth back ref. 20)** having an electron source **(electron-emission emitters ref. 25)** formed on a substrate **(glass plate ref. 21)** so as to face to each other to form a gap **(internal gap ref. 30)** therebetween, and hermetically sealing the gap **(detailed description paragraph 16)**.

Regarding claims 5 and 30, Osamu et al. disclose the method of manufacturing the flat panel display as set forth in claim 1, further comprising: preceding depositing the getter film, heating/deaerating the faceplate **(col. 5 lines 2-18; paragraphs 29 and 30)**.

Regarding claim 6, Osamu et al. disclose the method of manufacturing the flat panel display as set forth in claim 1, further comprising: preceding hermetically sealing, heating/deaerating the rear plate **(col. 5 lines 13-23; paragraphs 31 and 32)**.

Regarding claim 7, Osamu et al. disclose the method of manufacturing the flat panel display as set forth in claim 1: wherein the respective processes are implemented in a vacuum atmosphere **(col. 5 lines 29-32; Detailed Description paragraph 34)**.

Regarding claim 8, Osamu et al. disclose the method of manufacturing the flat panel display as set forth in claim 1: wherein the respective processes are implemented in a same manufacturing apparatus continuously or simultaneously **(col. 5 lines 24-32; paragraphs 33-34)**.

Regarding claim 9, Osamu et al. disclose the method of manufacturing the flat panel display as set forth in claim 1:

wherein the respective processes are implemented in manufacturing apparatuses independent for the respective processes continuously or simultaneously **(col. 5 lines 24-32; paragraphs 33 and 34)**.

Regarding claim 10, Osamu et al. disclose the method of manufacturing the flat panel display as set forth in claim 9:

Wherein as the manufacturing apparatuses independent for the respective processes, the apparatuses in which the respective processes are arranged not to expose the faceplate and the rear plate to an oxidizing atmosphere are employed **(col. 5 lines 24-32; paragraphs 33-34; Detailed Description paragraphs 27-34; col. 4 lines 42-50; col. 5 lines 1-33)**.

Regarding claim 15, Osamu et al. disclose the method of manufacturing the flat panel display as set forth in claim 1:

wherein in the hermetic sealing, a support frame **(low-melting glass layer ref. 35; paragraph 19; col. 3 lines 32-45)** is disposed between the faceplate and the rear plate, the gap being hermetically sealed through the support frame.

Regarding claim 17, Osamu et al. disclose the method of manufacturing the flat panel display as set forth in claim 7:

Wherein the region between the faceplate and the rear plate is made a vacuum of or less by means of a vacuum atmosphere during the process and getter film **(Detailed Description paragraphs 27-34; col. 4 lines 42-50; col. 5 lines 1-33)**.

Regarding claim 18, Osamu et al. disclose the method of manufacturing the flat panel display as set forth in claim 1: wherein the respective processes are implemented

in a vacuum atmosphere of 1 x 10^{-4} Pa or less **(D tailed D scription paragraphs 27-34; col. 4 lines 42-50; col. 5 lines 1-33)**.

Claims 1-3 and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Wallace et al. U.S. Patent 5,689,151.

Regarding claims 26 and 1, Wallace et al. disclose a flat panel display **(title)**, manufacture at least by depositing a getter film **(getter material Fig. 1, 2a and 2b ref. 29 and 29'; col. 5 lines 9-10)** on a faceplate **(anode plate ref. 10)** having a phosphor layer **(luminescent material ref. 24)** formed on a substrate **(transparent substrate ref. 26)**, and by disposing the faceplate thereon the getter film is deposited so as to face a rear plate having an electron source **(emitters ref. 14)** formed on a substrate **(substrate ref. 18)** with a gap **(Fig. 1 no ref. #)** therebetween to hermetically seal **(col. 1 lines 50-58; col. 4 lines 67)**.

Regarding claim 27, 2, 3, and 28, Wallace et al. disclose the flat panel display as set forth in claim 26: wherein the getter film is one formed of evaporable getter material **(col. 5 line 1)**.

Claims 1-4, 12, 13, 15, 19, 20, 23, 25-32, 34 and 36 is rejected under 35 U.S.C. 102(e) as being anticipated by Ono et al. U.S. Patent 5,936,342.

Regarding claims 19, 1-4, 12, 20, 26-31, Ono et al. disclose a flat panel display **(envelope ref. 5)**, comprising a faceplate having a phosphor layer **(fluorescent film ref. 7)** and a metal back **(ref. 8 metal back)** formed on a substrate **(glass substrate ref. 6)**; a getter film **(getter layer ref. 9)** substantially made of Ba **(col. 12 lines 18-23)** deposited on the metal back; and a rear plate **(rear plate ref. 2)** disposed facing the

faceplate to form a gap **(Fig. 1 no r f. #)** therebetween and having an electron source **(electron source ref. 1)**; wherein the gap between the faceplate and the rear plate is hermetically sealed **(col. 17 line 37)**.

Regarding claims 23, 15 and 34, Ono et al. disclose the flat panel display as set forth in claim 19, further comprising: a support frame **(support frame ref. 3)** disposed between the faceplate and the rear plate; wherein the gap between the faceplate and the rear plate is hermetically sealed through the support frame **(col. 17 lines 30-44)**.

Regarding claim 25 and 36, Ono et al. disclose the flat panel display as set forth in claim 19: wherein a region between the faceplate and the rear plate is evacuated to a vacuum of 1×10^{-5} Pa or less **(col. 19 lines 55-58; col. 11 lines 11-14)**.

As to limitation wherein, preceding the deposition of the getter film, heating/dearating of the faceplate is implemented in claim 30, it is the process step incorporated into which renders the claim as a product-by-process.

The courts have been holding that: "- -In spite of the fact that a product-by-process claim may recite only process limitation, it is the product which is covered by the claim and not the recited process steps- - . (In re Hughes, 182 USPQ 106) - -". Also - - Patentability of a claim to a product does not rest merely on a difference in the method by which that product is made. Rather, it is the product itself which must be new and unobvious. (In re Pilkington, 162 USPQ 147) - -." Accordingly, "- - a rejection based on 35 U.S. C. section 102 or alternatively on 35 U.S. C. section 103 of the statute is eminently fair and acceptable." (In re Brown and Saffer, 173 USPQ 685 and 688). - - The determination of the patentability of product-by-process claim is based on the

product itself rather than on the process by which the product is made- -. In re Thrope, 777 F. 2d 695, 227 USPQ 964 (Fed. Cir. 1985).

As such, **no** patentable weight is given to process steps recited in claim 30.

Regarding claims 32 and 13, Ono et al. disclose the flat panel display as set forth in claim 26: wherein the getter film is deposited **(col. 8 lines 50-55)** mainly in a region other than a formation region of the phosphor layer.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. U.S. Patent 5,936,342.

Regarding claim 11, Ono et al. teach all the limitations of claim 11 **(col. 8 lines 44-67; col. 21 lines 6-23)**, but fail to teach wherein the getter film substantially made of Ba is formed by vapor depositing Ba on the metal back of the face plate in a vacuum atmosphere. Ono et al. in the analogous art teach using Ba as the getter film **(col. 12 lines 21-23)**.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use barium in the getter deposition of Ono et al., since such a modification would be conventional.

Regarding claim 21, Ono et al. teach all the limitations of claim 21 **(col. 21 lines 6-23; col. 8 lines 44-67)**, but fail to teach wherein the barium getter film is deposited mainly in a region other than a region where the phosphor layer is formed on the metal back. Ono et al. in the analogous art teach a barium getter film **(col. 12 lines 20-22)**.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use barium in the getter film deposited mainly in a region other than a region where the phosphor layer is formed on the metal back of Ono et al., since such a modification would be conventional.

Claims 14, 22 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. U.S. Patent 5,936,342 in view of Nakatani et al. U.S. Patent 6,008,576.

Regarding claims 22, 14 and 33, Ono et al. teach all the limitations of claim 22, but fails to teach wherein the getter film has a thickness of 1μm or more. Nakatani et al. in the analogous art teach where a getter film has a thickness of 1μm or more **(col. 14 lines 51-67)**. Additionally, Nakatani et al. teach incorporation of such a thickness to improve the structure by providing gas ventilation efficiency and adequate gettering for a flat panel **(col. 14 lines 51-67)**.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a getter film that has a thickness of 1μm or more in the image display of Ono et al. since such a modification would improve the structure by providing gas ventilation efficiency and adequate gettering for a flat panel as taught by Nakatani et al.

Claims 16, 24 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. U.S. Patent 5,936,342 in view of Bosserman et al. U.S. Patent 4,031,552.

Regarding claims 24, 16 and 35, Ono et al. teach all the limitations of claim 24, but fail to teach wherein the support frame and the faceplate are sealed by means of indium or alloy thereof. Watkins et al. in the analogous art teach a wherein the support frame and the faceplate are sealed by means of indium or alloy thereof **(col. 3 lines 38-49)**. Additionally, Bosserman et al. teaches incorporation of such an indium or alloy thereof to improve the structure by providing seals **(col. 3 lines 38-49)**.

Consequently it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use indium or alloy thereof in the image display seal of Ono et al. since such a modification would improve the structure by providing vacuum seals as taught by Bosserman et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Watkins et al. U.S. Patent 5,827,102 disclose a Low Temperature Method for Evacuating and Sealing Field Emission Displays. Cho et al. U.S. Patent 5,977,706 disclose a Multi-Compartment Getter-Containing Flat-Panel Device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (703) 308-8991. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is n/a.

Glenn Zimmerman
January 3, 2003

ASHOK PATEL
PRIMARY EXAMINER